

1/15

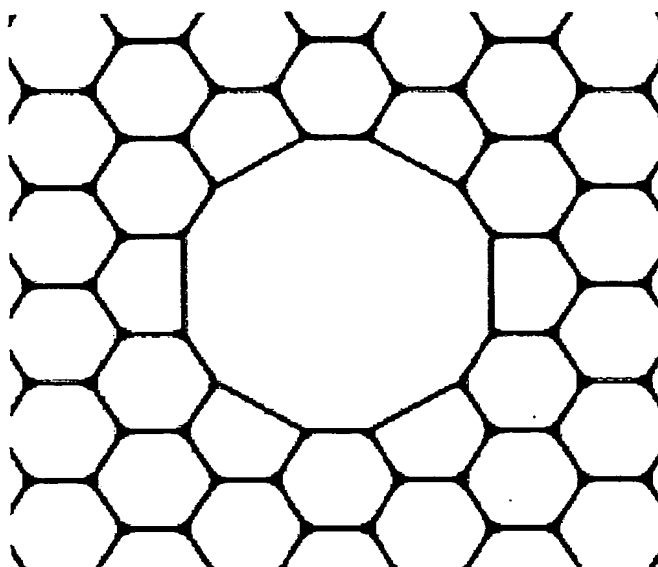


Figure 1

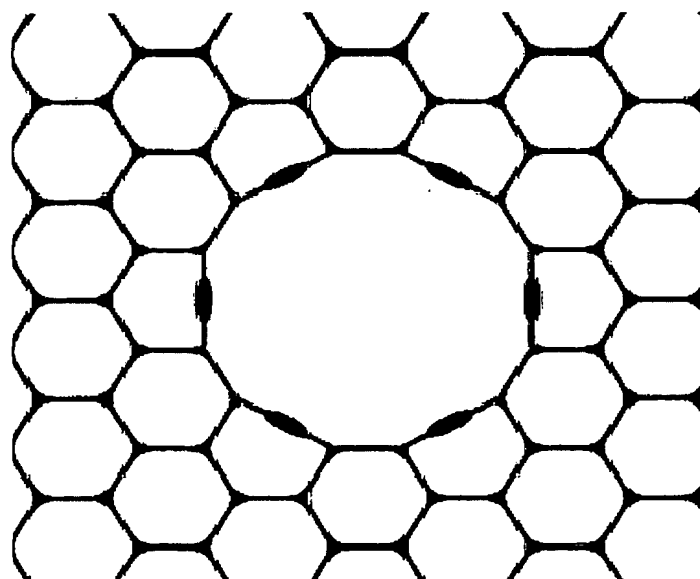
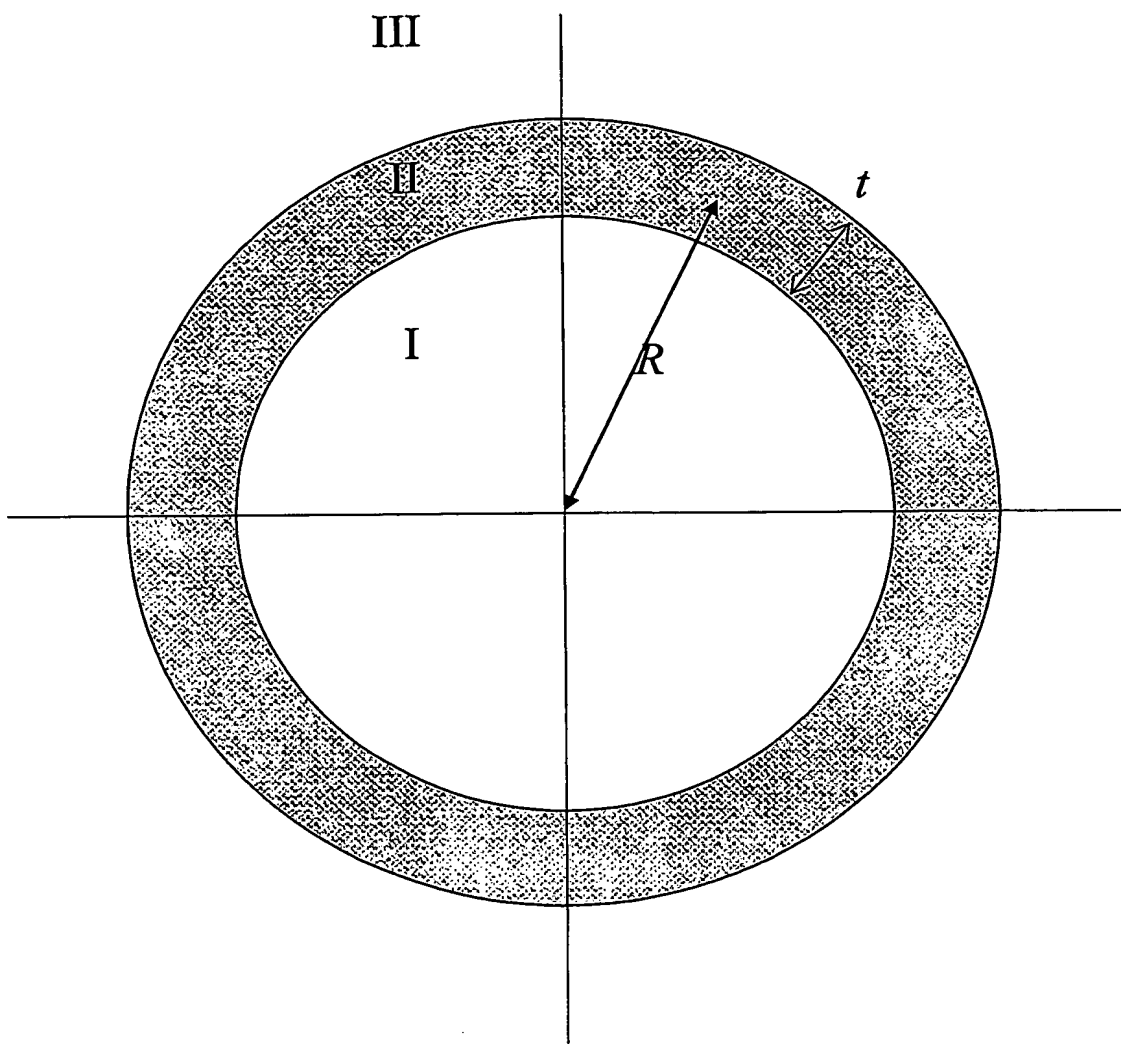


Figure 2

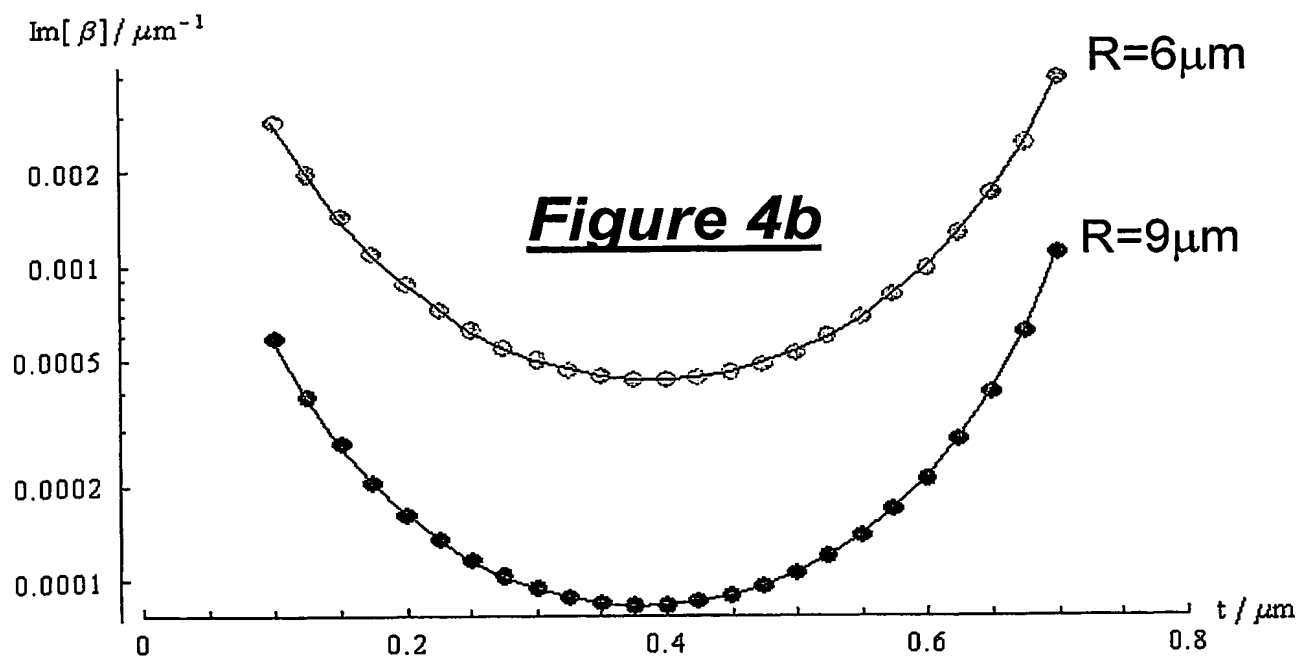
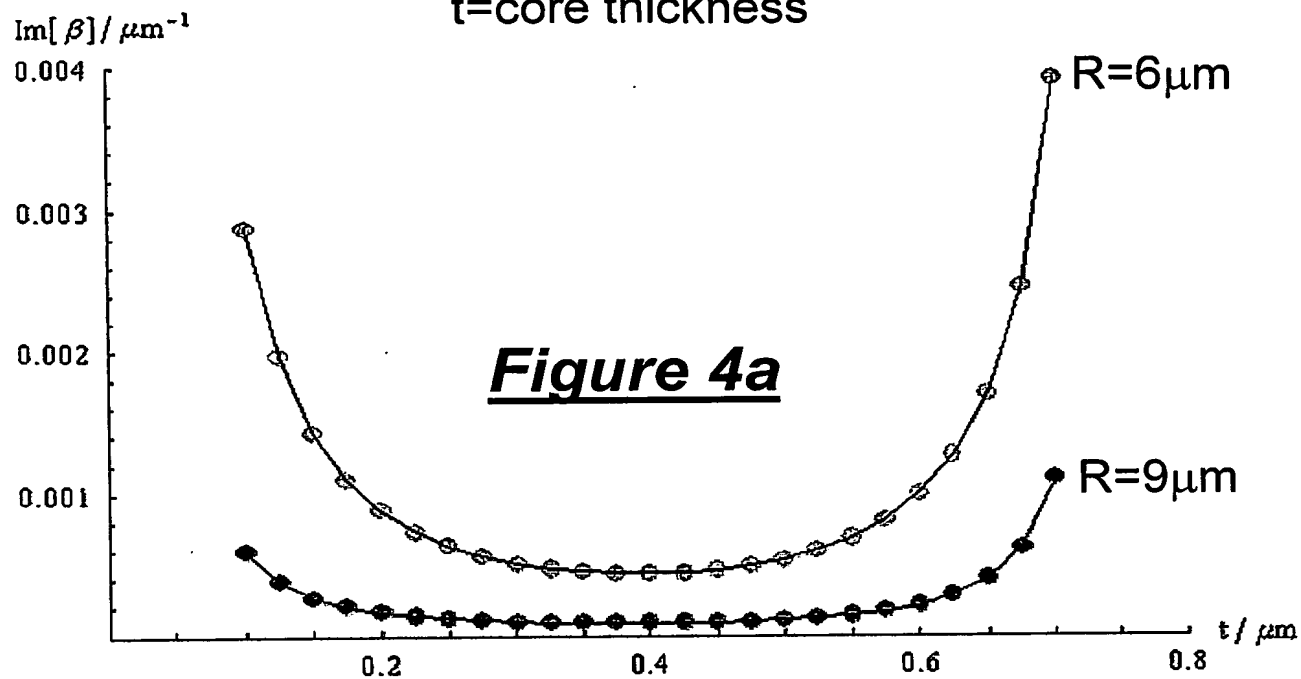
2/15

**Figure 3**

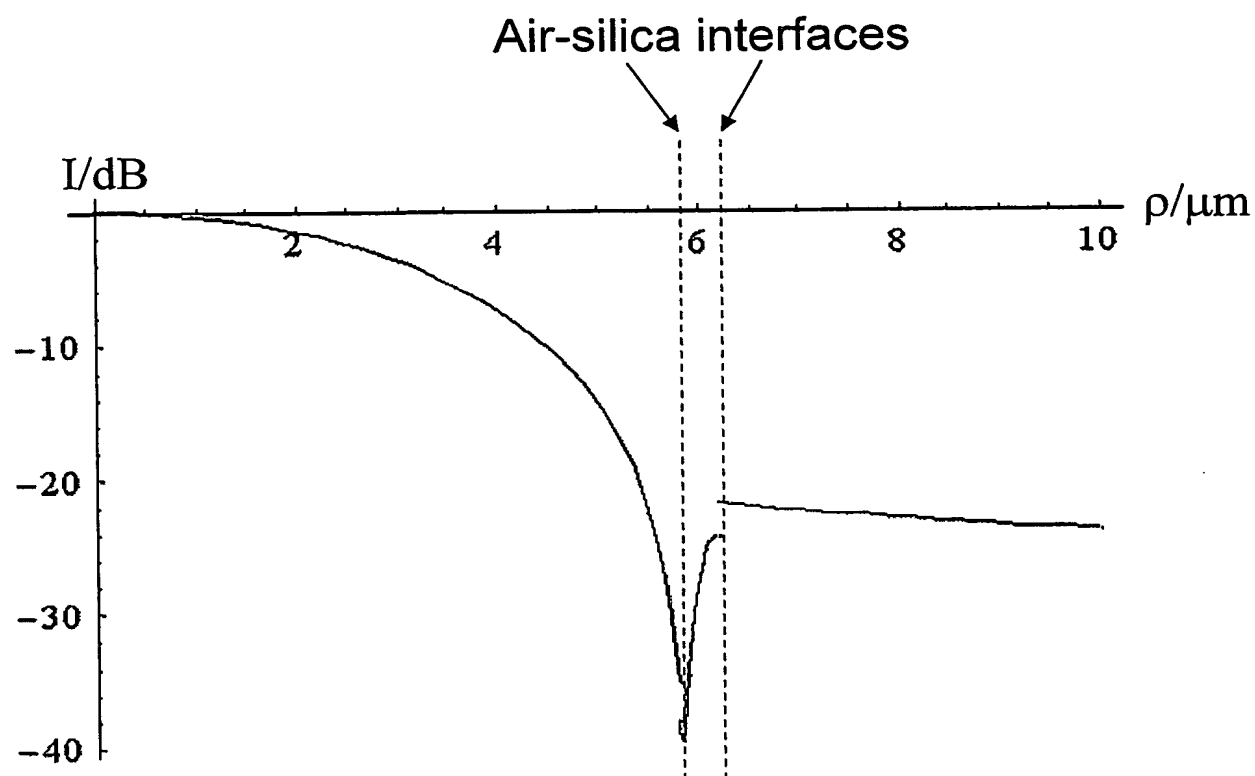
3/15 $\lambda = 1.55 \mu\text{m}$

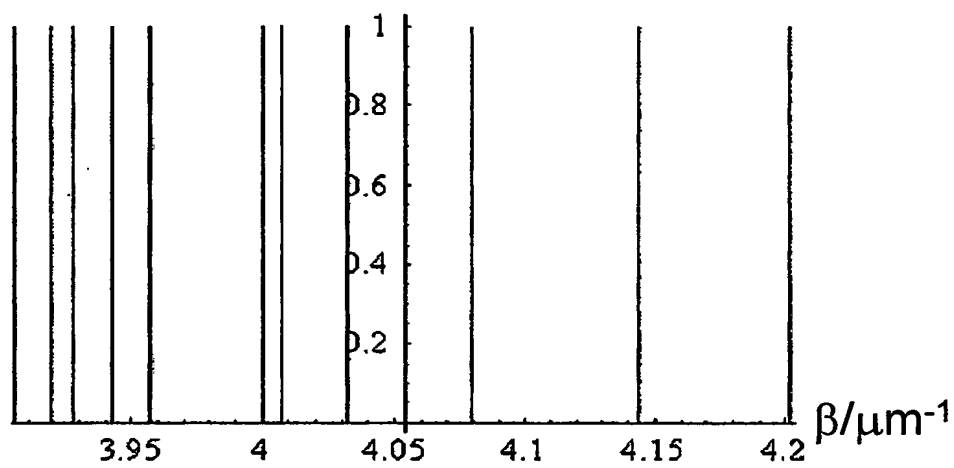
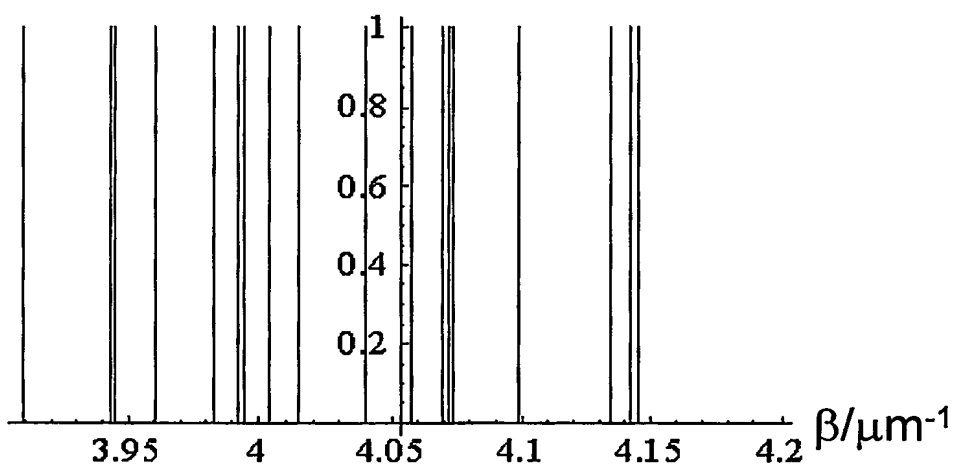
R = mean ring radius

t = core thickness

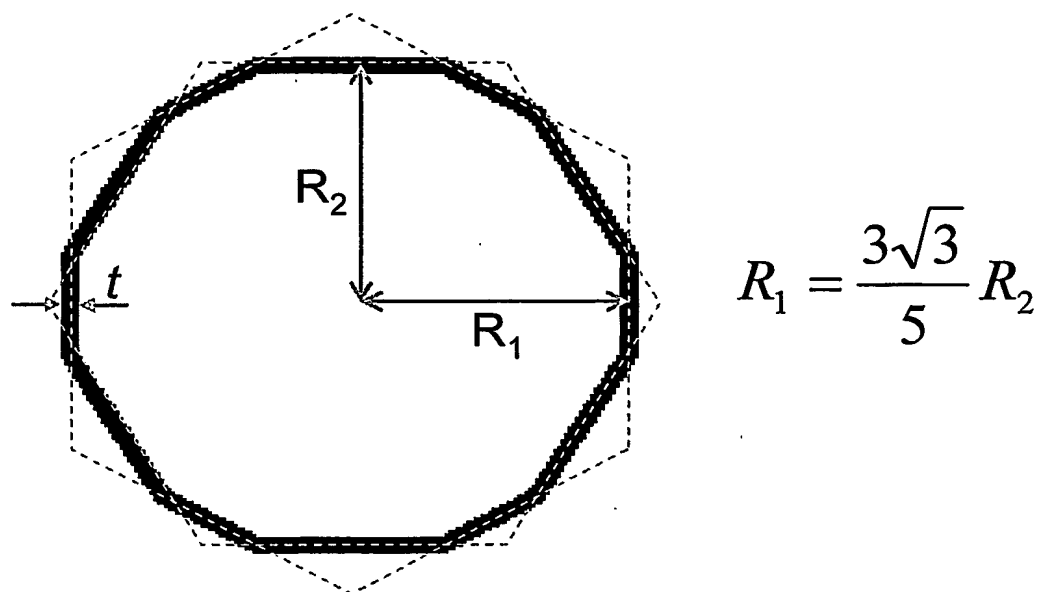


4/15

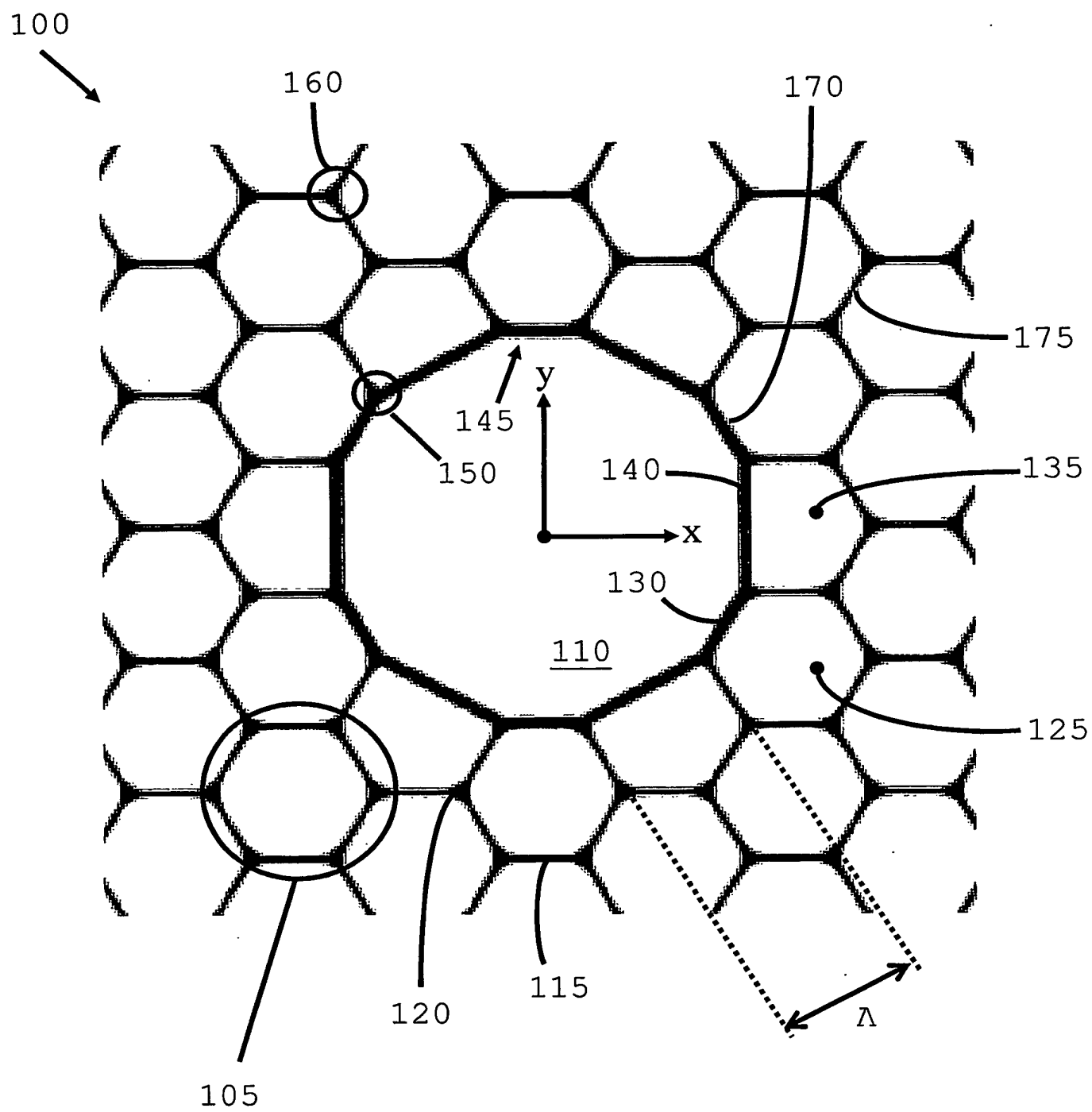
**Figure 5**

5/15 $t=0.392\mu\text{m}$  $t=0.1\mu\text{m}$ **Figure 6**

6/15

**Figure 7**

7/15

**Figure 8a**

8/15

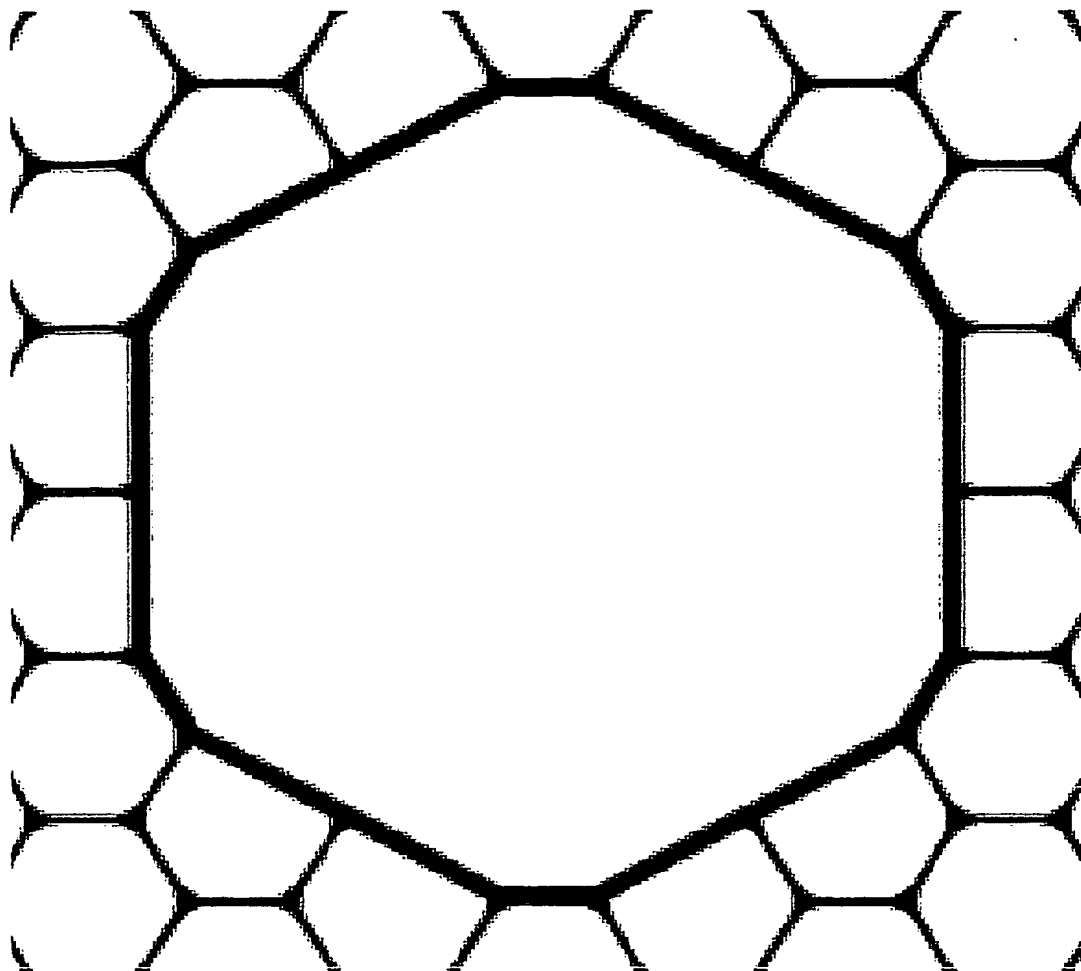
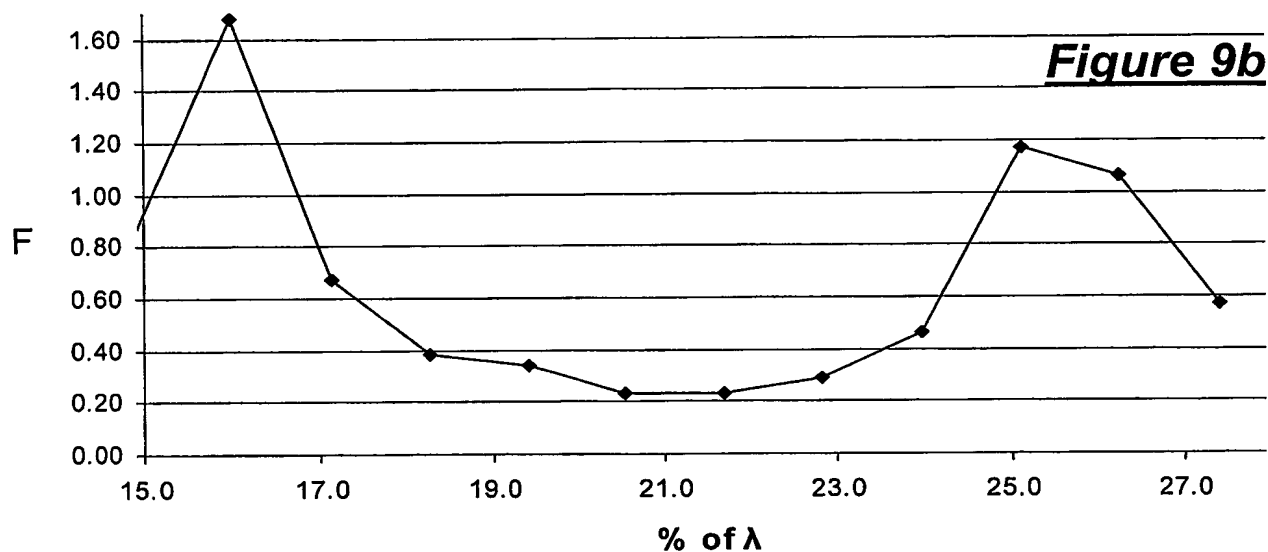
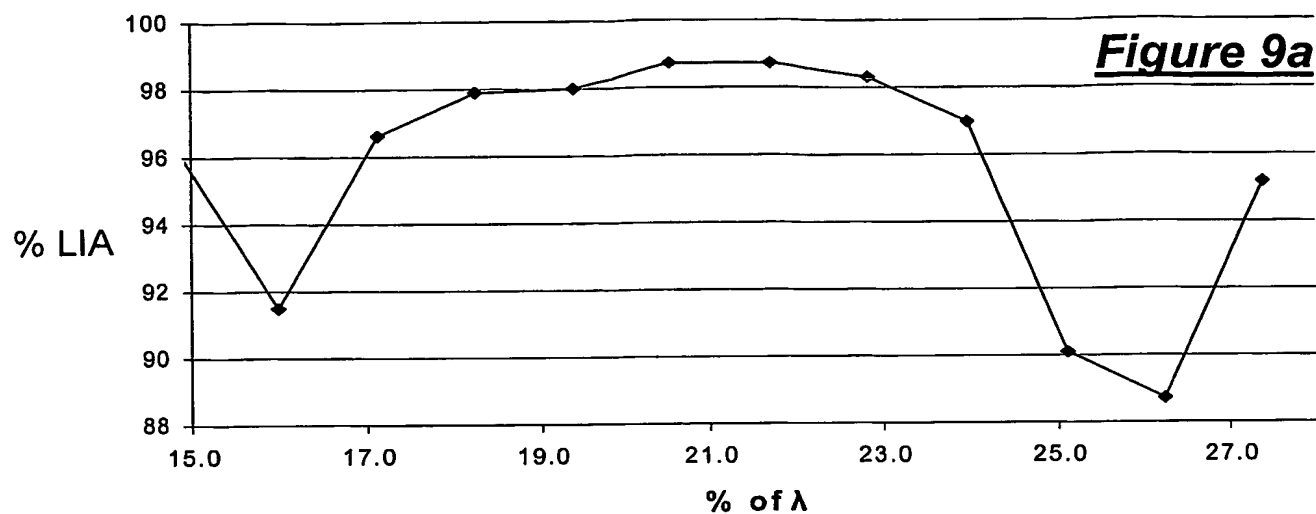
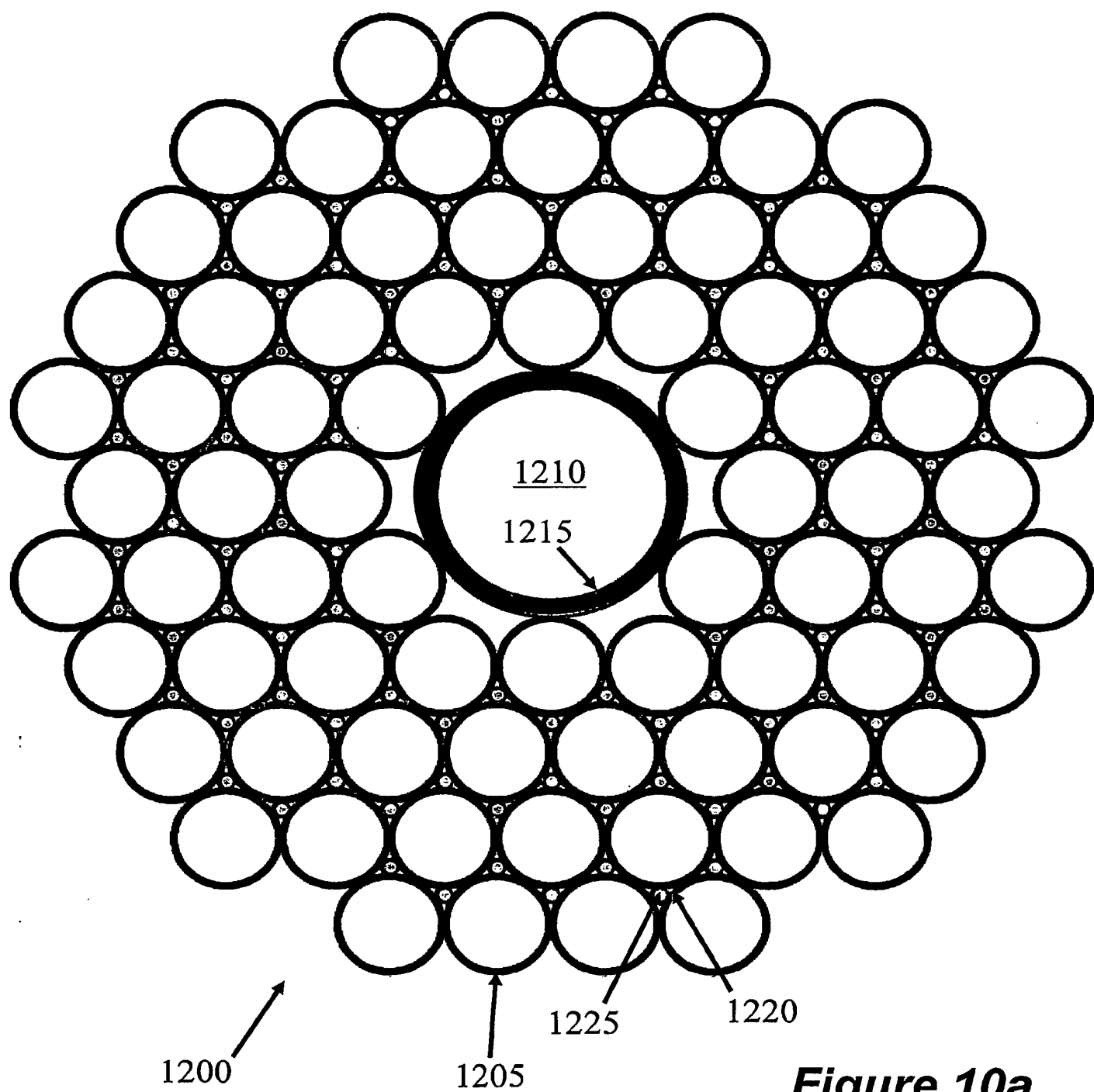


Figure 8b

9/15



10/15

**Figure 10a**

11/15

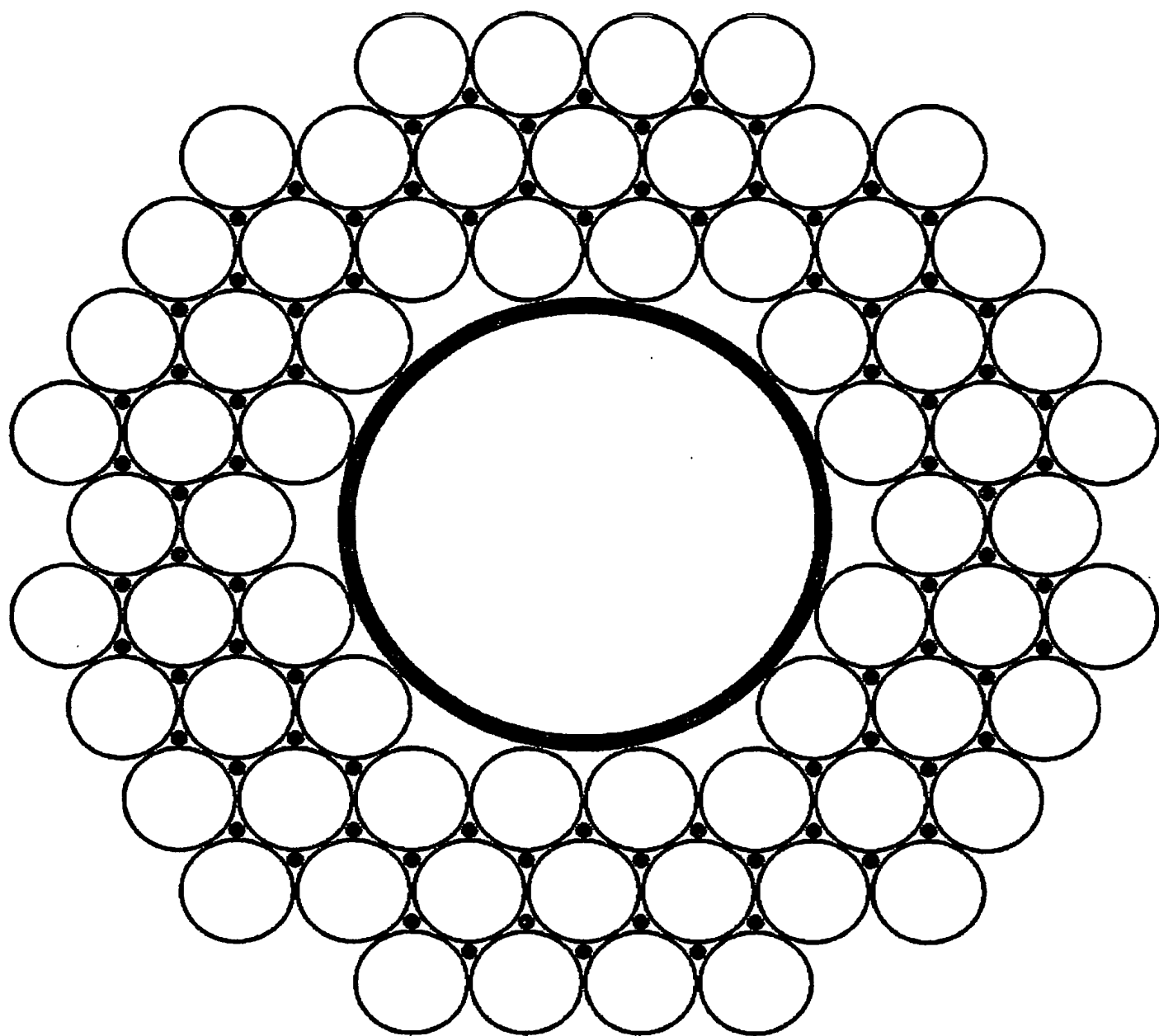


Figure 10b

12/15

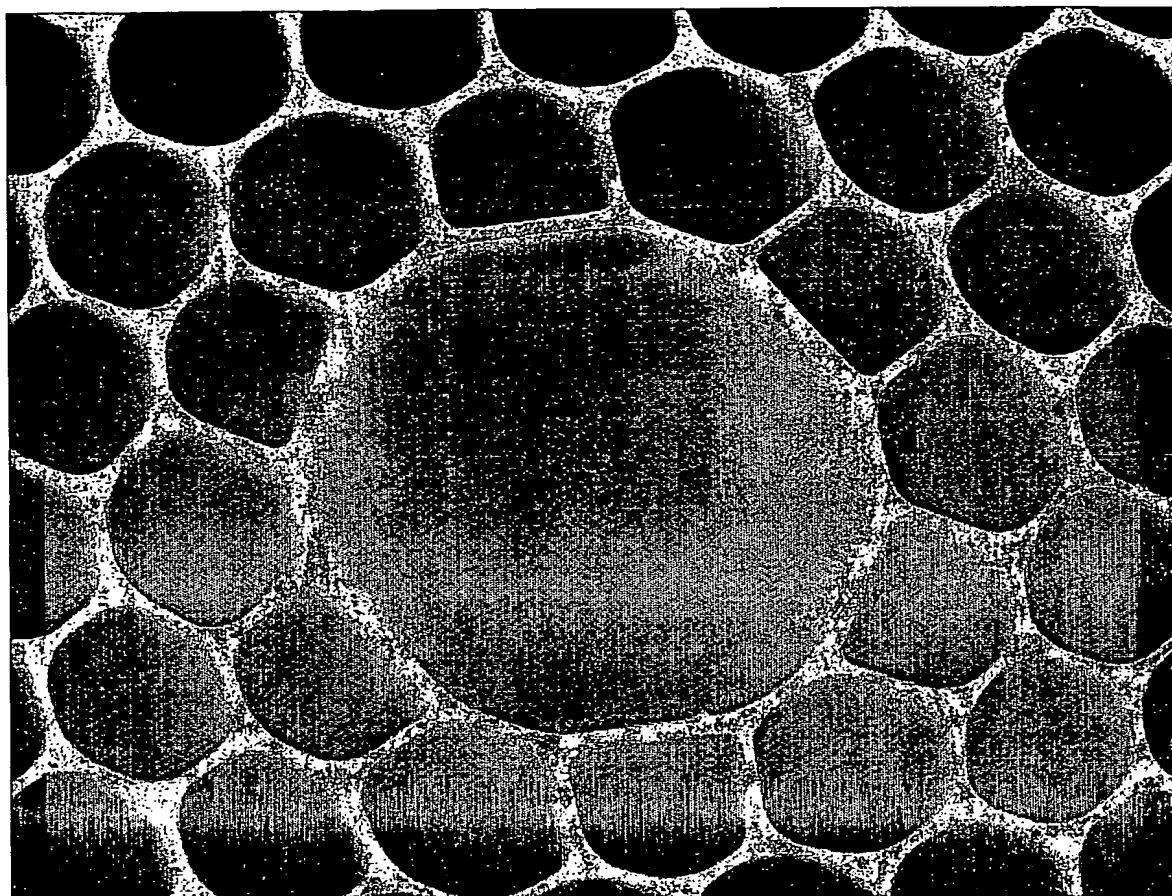


Figure 11a

13/15

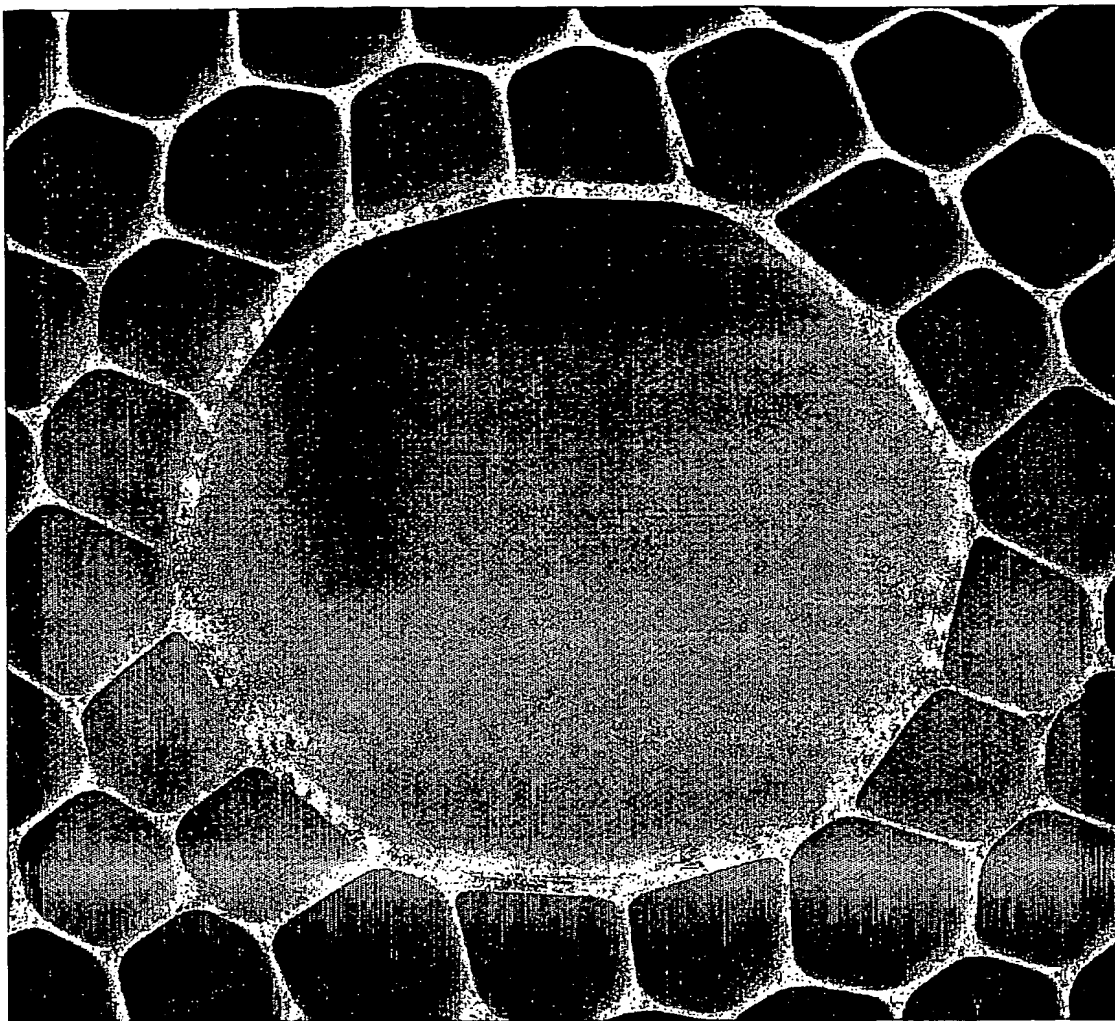
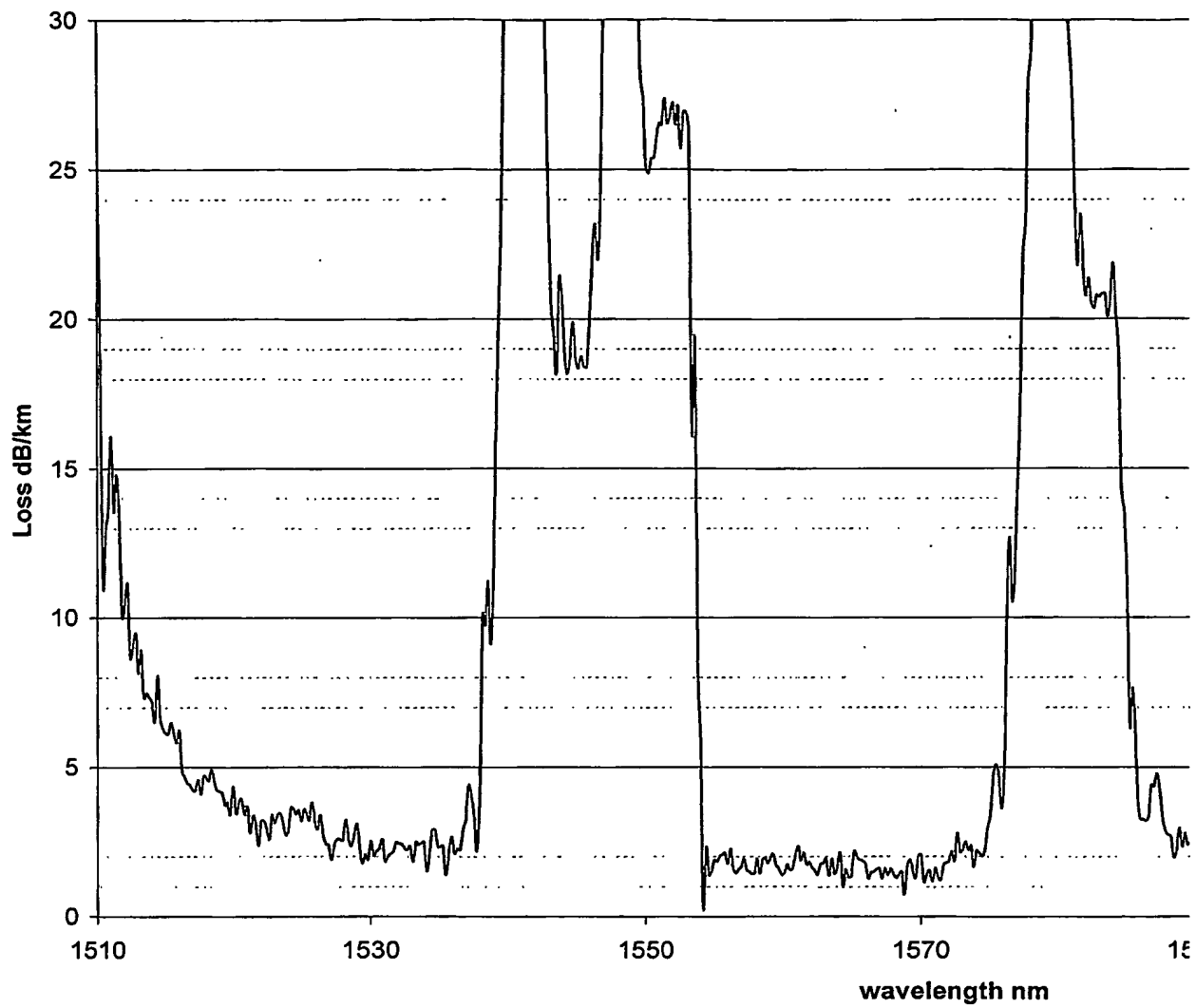


Figure 11b

14/15**Figure 12**

15/15

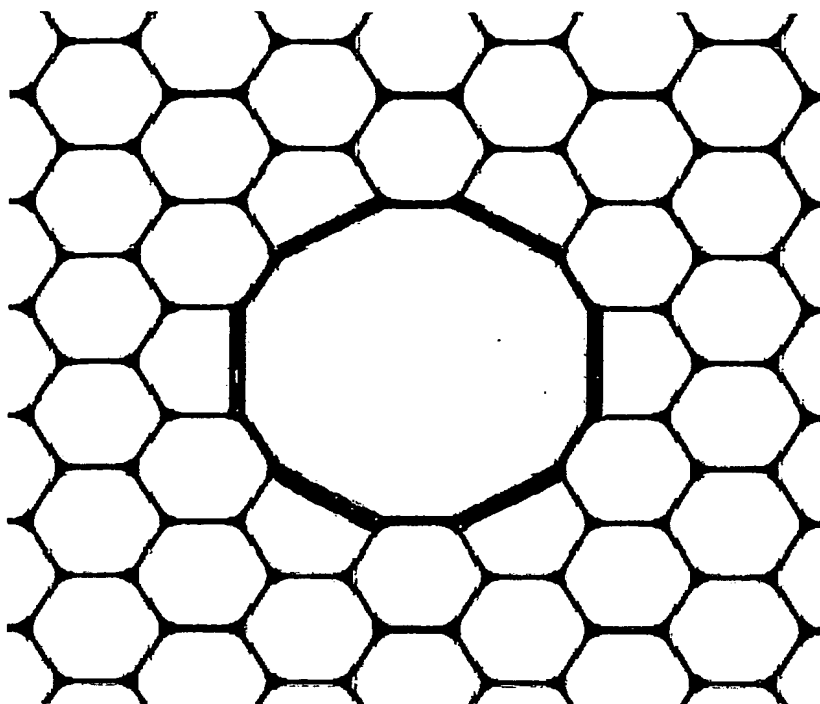


Figure 13

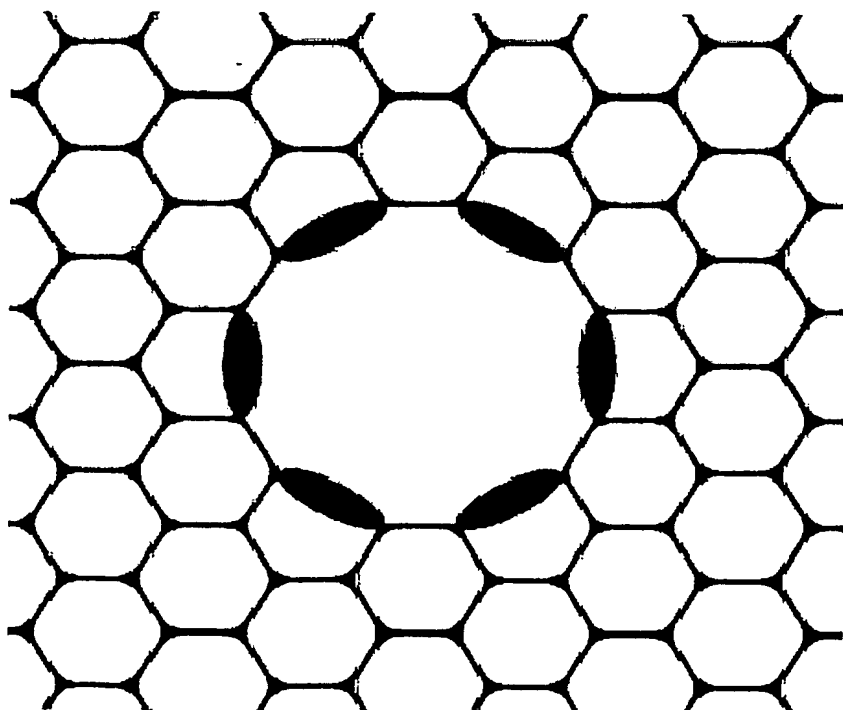


Figure 14